

REMARKS

This amendment is submitted in response to a Final Office Action mailed October 30, 2007. Applicant respectfully requests reconsideration of the subject application as amended herein.

Claims 1-3, 5-7, and 21 remain in the present application. Claims 4 and 8-20 were previously canceled without prejudice.

In the October 30, 2007 Office Action, claims 1-3, 5-7, and 21 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,178,022 issued to Yoneyama (hereinafter "Yoneyama") further in view of U.S. Patent Application US2002/0012152 by Agazzi et al. (hereinafter "Agazzi"), or U.S. Patent No. 6,885,826 issued to Kropp (hereinafter "Kropp"), or U.S. Patent No. 6,897,424 issued to Suzuki (hereinafter "Suzuki"). Applicant has amended claim 1 to further clarify the distinctions over the cited references. Amended claim 1 states:

An apparatus comprising:

- a processor having a first planar surface and a second planar surface opposite to said first planar surface, said second planar surface comprising a plurality of bonding locations to bond to a printed circuit board;

- a plurality of laser drivers in the processor, each of said plurality of laser drivers to generate an electrical data signal at a corresponding one of a plurality of output ports distributed on the first planar surface of the processor;

- a laser unit having a third planar surface coupled to the first planar surface of the processor, said third planar surface of the laser unit having a plurality of input ports, each of the plurality of input ports bonded to one of the output ports distributed on the first planar surface of the processor, said laser unit including at least one pulse laser to generate at least one pulse train; and

- said laser unit including a plurality of laser modulators, each of said plurality of laser modulators to receive a particular pulse

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train from the at least one pulse laser, and a particular electrical data signal from a corresponding one of the plurality of laser drivers, each of said plurality of laser modulators to encode its received electrical data signal onto its received pulse train by selectively passing pulses.

Amended claim 1 is limited to a particular physical arrangement of electrical and optical components. The inventive arrangement includes a laser unit stacked with a processor. Planar surfaces of the processor and the laser unit are coupled together. Bonds between the planar surfaces couple laser driver outputs from the processor to laser modulators in the laser unit. These laser modulators selectively pass pulses from one or more pulse lasers based on electrical data signals from the laser drivers in the processor.

As noted in the Final Office Action, Yoneyama fails to teach a processor with laser driver outputs on a surface of the processor. Agazzi, Kropp, and Suzuki were each cited to teach a plurality of laser driver output ports on a surface of a processor.

Agazzi, however, merely shows a block diagram in Figure 9 including a DSP coupled to an array of laser drivers and corresponding lasers. Similarly, Kropp merely shows a block diagram in Figure 5 including a control device 5 coupled to an array of driver circuits 61-64 and corresponding lasers 10a-10d. Likewise, Suzuki merely shows block diagrams in Figures 1 and 4 including a CPU 30 coupled to a parallel array of laser drivers 2.

Applicant respectfully submits that none of the cited references, alone or combined, suggest, disclose, or enable the particular stacked arranged of processor and laser unit claimed in amended claim 1.

Therefore, Applicant respectfully submits that amended claim 1 is patentable over the cited references.

Applicant submits that the reasoning presented above with respect to amended claim 1 similarly applies to claims 2-3, 5-7, and 21. Thus, for at least the reasons discussed above, Applicant respectfully submits that claims 2-3, 5-7, and 21 are likewise patentable over the cited references.

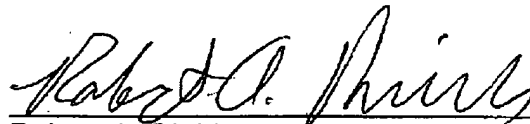
In conclusion, Applicant respectfully submits that claims 1-3, 5-7, and 21 are now in a condition for allowance, and Applicant respectfully requests allowance of such claims.

Please charge any shortages and credit any overages to our Deposit Account No. 50-0221.

Respectfully submitted,

INTEL CORPORATION

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